

STUDIES ON AUSTRALIAN MARINE ALGAE. II.

NOTES EXTENDING THE KNOWN GEOGRAPHICAL RANGE OF CERTAIN SPECIES.

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During any detailed systematic study of a section of a flora, one accumulates pieces of information concerning other members of that flora as a whole. During the programme of work on agar-producing algae on which the writer is at present engaged, certain facts have emerged regarding the distribution of certain other algae in Australia. These are discussed below. Unless otherwise stated, the specimens recorded in this paper are either in my own Herbarium or in the National Herbarium, Sydney.

CHLOROPHYCEAE.

VALONIA CONFEROIDES HARV.

Prior to my recording, in 1940, that a specimen of this plant had been found at Angowrie, northern New South Wales, it was known in Australia only from the north Queensland coast (specimen from Dunk Island in Brisbane Herbarium, Queensland). The following additional collections are now recorded:

Locality.	Date.	Collector.	Notes.
Noosa Heads, Qd.	xi.43.	Valerie May.	Drift.
Collaroy, near Sydney, N.S.W.	24.xi.44.	Valerie May.	Drift.
Collaroy, near Sydney, N.S.W.	27.xii.44.	Valerie May.	Drift.
Long Reef, near Sydney, N.S.W.	3.xii.44.	Valerie May.	Attached to rock; not exposed at low tide.

APJOHNIA LAETEVIRENS HARV.

New Record for New South Wales.

Previously this plant had been collected from South Australia, Victoria, and "rarely in Tasmania" (Lucas, 1936). The following collection is a new record for New South Wales:

Locality.	Date.	Collector.	Notes.
Collaroy, near Sydney, N.S.W.	7.vii.44.	Valerie May.	Drift after storm.

MELANOPHYCEAE.

HYDROCLATHRUS CLATHRATUS (Bory) Howe.

New Record for New South Wales.

Previously this plant had been collected in both Victoria and Queensland, as well as in South Australia and Western Australia, so that it is surprising that no previous record exists of its occurrence in New South Wales. Collections from southern Queensland are included for the sake of completeness.

Earlier records in Australia referred to this species under the name of *H. cancellatus* Bory, which, according to Setchell and Gardner (1925), should be included in *H. clathratus*.

* Contribution No. 40 from the Laboratory.

Locality.	Date.	Collector.	Notes.
Urangan, near Maryborough, Qd.	18.viii.43.	Valerie May.	Drift.
Near mouth of Mary River, Qd.	19.viii.43.	Valerie May.	Trawled.
Hervey Bay, near Maryborough, Qd.	25.viii.43.	Valerie May.	Trawled.
Moreton Big Banks, Moreton Bay, Qd.	2.xii.43.	Valerie May.	Attached.
Port Hacking, N.S.W.	v.44.	R. Bouchier.	
Bundeena and Lillipilli, Port Hacking, N.S.W.	8.ii.45.	Valerie May.	Trawled.

ENDARACHNE BINGHAMIAE J. Ag.

New Record for Australia.

Setchell and Gardner (1925), in figuring this plant, have emphasized its macroscopic resemblance to *Ilea Fascia* (Muell.) Fries. This resemblance is presumably responsible for *Endarachne* not being recognized earlier in Australia, for, near Sydney, it appears to be quite prevalent. One sample of it was collected, but left unnamed, by the late Mr. A. H. S. Lucas. Our plant matches well the figures given by Setchell and Gardner (1925). The localities from which it has so far been collected are as follows:

Locality.	Date.	Collector.	Notes.
Bondi, near Sydney, N.S.W.	v.10.	A. H. S. Lucas.	
Mona Vale, near Sydney, N.S.W.	13.v.44.	Valerie May.	} Growing on rock platforms on rocks exposed at low tide.
Mona Vale, near Sydney, N.S.W.	11.iii.45.	Valerie May.	
Long Reef, near Sydney, N.S.W.	31.vii.44.	Valerie May.	
Newport, near Sydney, N.S.W.	21.x.44.	Valerie May.	
Newport, near Sydney, N.S.W.	18.ii.45.	Valerie May.	
Kurnell, near Sydney, N.S.W.	16.xi.44.	Valerie May.	
Stanwell Park, near Sydney, N.S.W.	26.iii.45.	Valerie May.	

RHODOPHYCEAE.

NEMALION MULTIFIDUM (W. and M.) J. Ag.

New Record for Australia.

The identification of this plant is based on comparison of material with Harvey (1846-51, Pl. 36), and with Newton (1931, pp. 256-7). The microscopic anatomy agrees well with these references, but the dichotomous branching is rather less frequent than appears usual for the species. In this character the species approaches *N. elminthoides* Batt. (= *N. lubricum* Duby).

This is the only record of the genus *Nemalion* in Australia. An earlier record (*N. insigne* Harv.) is now regarded as belonging to another genus (*Helminthocladia* J. Ag.).

All collections have been made from ocean headlands, from rock faces exposed between tides, but receiving surf spray for much of the time. Both cystocarps and antheridia were present in material of the 11.iii.45 collection listed below.

Locality.	Date.	Collector.	Notes.
Mona Vale, near Sydney, N.S.W.	11.v.44.	Valerie May.	
Mona Vale, near Sydney, N.S.W.	11.iii.45.	Valerie May.	Fertile monoecious.
Newport, near Sydney, N.S.W.	21.x.44.	Valerie May.	
Stanwell Park, near Sydney, N.S.W.	26.iii.45.	Valerie May.	

EUCHEUMA GELATINAE (Esp.) J. Ag.

New Record for south Western Australia.

E. speciosum (Sond.) J. Ag. is the species of this genus best known in Australia, being collected from south Western Australia and also, in smaller quantities, from Tasmania.

E. gelatinae (Esp.) J. Ag. was recorded by Mme. Weber-van Bosse (1928) as from "Côtes de la Nouvelle Hollande". Recently I have seen samples of what appears to be this species, collected from the following locality:

Locality.	Date.	Collector.	Notes.
Abrolhos Islands, off W. Aust.	v.44.	D. L. Serventy.	Drift.

These algae were collected in connection with the Western Australian agar production programme, and I understand from Dr. Serventy that the Western Australian manufacturers have been unable to detect a difference in the agar yield obtained when using *E. gelatinae* as compared with that obtained when using the more usual *E. speciosum*.

EUCHEUMA MURICATUM (Gmel.) Weber-van Bosse.

New Record for Western Australia.

This species—recorded by the synonym *E. spinosum* (L.) J. Ag.—was known from Thursday Island and Dunk Island, off the coast of Queensland (the latter specimen is in the Brisbane Herbarium, Queensland) and has now been collected from the following locality:

Locality.	Date.	Collector.	Notes.
Pelsart Island, Abrolhos Group, off W. Aust.	xi.44.	D. L. Serventy.	Drift on west (lagoon) side of island.

It seems likely that further collections of this plant may be expected from more northerly areas of Western Australia.

ANTITHAMNION PLUMULA (Ellis) Thur.

New Record for New South Wales.

This plant had been collected previously in Australia at Port Phillip Heads by J. Br. Wilson and at Georgetown, Tasmania, by W. H. Harvey (both collections are now in the National Herbarium, Sydney), but Harvey (1863) records it as "rare".

It is now reported by local fishermen as being extremely prevalent along the whole New South Wales coast from Bateman's Bay to Jervis Bay, at a depth ranging from 20 to 50 fathoms, in areas which the fishermen knew previously as clean, sandy bottoms and on which they have trawled for flathead during the last two years. This plant has, in fact, been suggested as a possible menace to the flathead trawling industry. It may be noteworthy that recently also samples of it were obtained from D'Entrecasteaux Channel, Tasmania.

Locality.	Date.	Collector.	Notes.
Off Ulladulla, N.S.W.	ii.45.	K. Sheard.	Trawled, 20 fathoms.
D'Entrecasteaux Channel, Tasm.	8.ix.44.	J. A. Tubb.	Trawled, 5 fathoms.

LITHOTHAMNION LICHENOIDES (Ell. and Sol.) Heydrich forma *PATENA*

(H. and H.) Foslie.

New Record for New South Wales.

This rather distinctive form was previously known from Victoria and South Australia. It is now reported as follows:

Locality.	Date.	Collector.	Notes.
Long Reef, near Sydney, N.S.W.	3.xii.44.	Valerie May.	On attached <i>Corallina</i> sp. on rock platform.

SUMMARY.

New collections are reported of certain marine algae, extending the known range of geographical distribution in Australia of the species concerned. Four species are recorded for the first time in New South Wales, one species is recorded for the first time in Western Australia and one in south Western Australia.

Endarachne Binghamiae J. Ag. and *Nemalion multifidum* (W. and M.) J. Ag. are recorded for the first time in Australia.

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